

Main types of PPP

Although concession contracts have been used for many centuries, notably in Europe, the first reference to the term “Public-Private Partnership” dates from the 1950s in the United States and was originally applied to joint ventures between the public sector and not-for-profit organizations in educational and urban renewal programs.

The term PPP found wider application in 1997 under the new Labor government in the UK seeking a third way for infrastructure provision, although the new PPP program was largely based on the previous Private Finance Initiative (PFI) under the outgoing Conservative government. This PPP program provided for a new branding of PPP as a contract-based partnership between the private and public sectors in public infrastructure.

Other terms are being used internationally to represent the partnership between the public and private sectors embodied in the PPP approach. Related terms include:

- Private Participation in Infrastructure (PPI), used by the World Bank (cf data base) and within the development-financing sector; also adopted for the South Korean PPI program
- Private-Sector Participation (PSP), also used within the development-financing sector
- P3, used in North America
- Privately-Financed Projects (PFP), used in Australia
- P-P Partnership (to avoid confusion with the term “purchasing power parity”, a method of comparing currency exchange rates, and also referred to as PPP)
- Private Finance Initiative (PFI), originating in UK but now also used in Japan and Malaysia

Basic principles

Public-private partnerships or PPP is not a precisely defined term. It embraces a range of structures and concepts, which involve the allocation of risks and responsibilities between the public and private sectors.

Fundamentally, PPPs introduce, as a minimum, private management into public service through a long-term contractual bond between operator and a public authority. It secures all or part of the public service, so delegated by private funding and calls upon private sector know-how.

Although the field of PPPs continues to rapidly evolve, considerable differences in the definition and application of terminology remain. Legal definitions developed to assist in the regulation of PPPs may not precisely match the operational characteristics of a specific project. In this context, the Toolkit uses the operational terminology used in the context of PPP implementation which may differ from formal legalistic definitions.

Two principal payment options are employed for PPP projects:

- **Road user payments**, traditionally under a concession model, characterized by the direct link between the private partner and the final user; the private partner provides a service to the public, “in place of”, though under the control of, the public partner. The concessionaire is allowed to charge the general public Service Fees for using the facility, generally through paying a toll. The toll reimburses the Concessionaire for the cost of building and operating the facility which can revert back to the public sector at the end of the concession period. The concession model is the traditional PPP method for public service provision and is important as being a tried and tested PPP model.
- **Availability-based payments**, the private partner providing and administering infrastructure for the public authority. In this model, the remuneration for the private partner does not take the form of charges paid by the users of the works or of the service, but of regular payments by the public partner based on the level of service provided. These payments may be fixed or variable, e.g. availability payments for the highway infrastructure, or based on level of use (eg shadow tolls). This model is relatively recent and embodies the notion of the private sector providing a defined level of service to the public sector (PFI program in the UK is a well-known example of an availability-based PPP program).

Tax-based approaches have traditionally been favored in the United States, Northern Europe and Japan, involving the use of general tax revenues, earmarked fuel taxes or other dedicated taxes to pay for projects. Southern European countries such as France, Italy, Portugal, and Spain, together with many emerging and developing countries, including notably Malaysia, South Africa, Croatia, China and Brazil, have favored the use of user fees collected in the form of tolls to finance their infrastructure needs.

In practice, these two payment options can be combined in order to “tailor” a given PPP project to include toll revenue supplemented with public financing and subsidies, subject to provision in the legal framework.

- Irrespective of the model and the type of partnership, public-private partnerships encompass the following basic principals which are comprised with the PPP contract between the parties. These concepts are further developed in Module 3 -> PPP Policy Framework.
- Long-term partnership. A long-term relationship between the public and private sectors is a key condition in allowing the efficiencies required to deliver Value for Money. During the course of the PPP contract, situations can arise which necessitate the amendment to the contract or change in scope. Therefore, communication and transparency between the public and private sector is a must in such a long-term relationship.
- Risk transfer. The bearing of risk by the party best positioned to assess them and to influence their probability and financial impact of their occurrence, is one of the key drivers of value for money. Additional criteria are the parties’ capacity to control the risks and to bear the consequences of their materialization.
- Performance-based specifications and life-cycle approach. In PPP projects, project deliverables are specified as outputs, as opposed to inputs as for conventional procurement, thus the performance (service) requirements of the infrastructure asset are defined rather than its technical details. This allows benefits to be

gained from the private sector’s capability for innovation and creativity in design, construction technology, management and financing by the selection of the service provider offering the optimum life cycle cost as opposed to the lowest construction cost.

- Size and complexity. PPP can be both vertically integrated (services from design to operation) and horizontally integrated (packaging of highway sections, as for conventional procurement). The ability of PPP to allow complete horizontal integration of services under one party from initial design and construction to finance and service delivery (operation and maintenance) allows performance-based incentives to be optimized, and efficient transfer of risk to a single private party, and the coordination of these activities by private companies at lower cost than the government, since they are better able to respond to economic incentives. However, this integration and service-based provision generates complexity in PPP procurement.

Moreover, in order to benefit from private sector incentives and generate value for money, PPP projects should have a certain volume. The size of the PPP contract depends largely on the capacity of public and private parties

- **Private investment and private finance.** The private sector invests money in a PPP project and seeks an equitable return as remuneration of the equity as well as for carrying the risk. Typically 20-40% of a PPP’s capital costs – depending on the level of risk and guarantee – are funded by equity and the balance from external debt finance. Debt may also be provided from international and regional funding agencies and from the bond market. Whoever the lender is, he will require due diligence of every aspect of the project to verify the project’s ability to repay its debt. If there is significant risk that project revenues will be insufficient to recover costs, some form of government support will be needed to make the PPP project bankable.
- **Legal framework.** PPP projects need to be completed and executed under a stable legal framework. Two of the major areas are the state aid controls and the public procurement regulations. Developing countries in particular, will need to attract lenders and sponsors by providing financial comfort, often through the use of government support (state guarantees, subsidies, tax relief, availability payments) and legislation needs to be reviewed prior to initiating a PPP project in order to avoid legal problems during the contract period. (Module 4 -> Legislation)
- **Revenues.** Various mechanisms can be used to ensure the revenue stream, either from real tolls as per the concession model or availability payments as per the PFI model or a mixture of both, where a toll is supplemented by public financing and subsidies. The decision how to ensure the revenue stream is a political decision and has considerable influence on the financial structure of the project, and consequently on the viability on the project as a whole. (Module 2 -> Revenues)



EIC Memorandum on Frequently Asked Questions on PPP, European International Contractors, September 2006

Continuum of alternatives

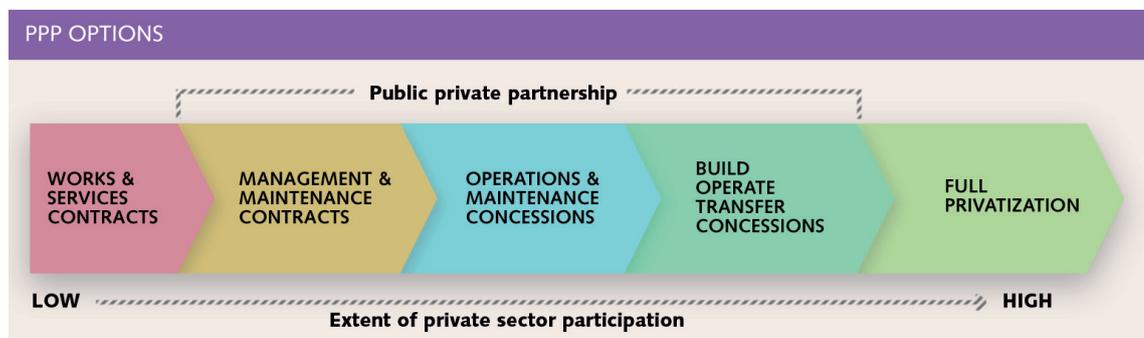
A host country's objectives may be for the private sector to operate and maintain an already existing road, and therefore the government may grant a concession to the private participants to charge user tolls to help finance the improved operation and maintenance of the road. Such a concession shifts the financial burden of the operation and maintenance to the road users, and at the same time should increase the efficiency of road operation and maintenance. Besides the issues inherent in a concession agreement, the operation and maintenance concession is similar in scope and approach to what is required and negotiated in a typical operation and maintenance agreement as between private parties.

Significant changes in host country laws and policies have created new opportunities for private investors to participate in PPPs involving a comprehensive scope of work (construction or major upgrading, operation and maintenance) and private financing.

Choosing the right PPP option

Numerous forms of PPPs have been developed worldwide to respond to the various fields of application. The major categories of PPP are presented in a simplified way in the figure below, in which the extent of private sector participation increases from left to right:

For simplicity, concessions have been indicated under two principal PPP categories to the right of the graph although such contracts could also be based on PFI type payments.



As the private sector increases its participation, it assumes increasing responsibility for the functions of design, build, operation and maintenance and finance. In the last case of full privatization, the private sector also assumes ownership of the infrastructure.

The following table presents a responsibility matrix for the principal forms of PPP as commonly understood on an operational level. However, some differences will occur in the understanding of PPP definitions (see box).

In the United States, BOT are defined as a single design-build-operate contract with financing secured by the public agency, i.e. the contract does not include private-sector finance, as opposed to DBFO (Federal Highway Administration, PPP Options). However, the Toolkit has retained another widely-accepted definition of BOT which provides for a broader; more generic definition of BOT and which generally includes private-sector financing.

The following terms are used in the table:

- public means that the public sector assumes wholly or predominantly this role or responsibility.
- private by fee contract means that the private sector is remunerated by a predetermined fee; established at tender stage. Incentive payments may be included but will be a marginal part of overall payment.
- private by performance-based maintenance contract means that the private sector is paid based on the level of service of the highway infrastructure, generally comprising a standard availability fee with penalties for below-standard performance.
- private by concession contract means that the private sector is paid based on user charges, availability payments or a mixture of both, as per the contract type

RESPONSIBILITY MATRIX FOR CONVENTIONAL PROCUREMENT AND PPP OPTIONS							
Category	Works and Service Contracts (conventional procurement)		Public-Private Partnership			Privatization	
	Design, Bid, Build	Design and Build	Management and Maintenance Contracts	Operation and Maintenance Concessions	Build Operate Transfer Concessions		
Type	Design, Bid, Build	Design and Build	Management Contracts	Performance-Based Contracts	Lease or Franchise or Affermage <i>Brownfield</i>	BOT/DBFO/BOO <i>Greenfield</i>	
Design	Private by fee contract	Private by fee contract				Private by concession contract	Private
Build	Private by fee contract						
Operation and Maintenance	Public	Public	Private by fee contract	Private by BBC contract	Private by concession contract		
Finance	Public	Public	Public	Public			
Own	Public	Public	Public	Public	Public		
Private sector revenue options					Tolls (concession model)		
					Availability payments (PFI model)		
					Government guarantees and support Other support (eg insurance)		

Source: EGIS

The principal characteristics of each contract type are detailed below. Conventional procurement methods of design-bid-build and design and build are not currently considered within the normal range of PPP options.

Design-bid-build is the traditional project delivery approach that was used for most of the 20th century to procure public works. The design-bid-build model segregates design and construction responsibilities by awarding them to an independent private engineer and a separate private contractor. By doing so, design-bid-build separates the delivery process into three linear phases: 1) Design, 2) Bid, and 3) Construction. This also includes quantity-based maintenance contracts.

Remuneration of the contractor is based on unit prices defined in the construction or maintenance contract and quantities measured on site. Design works are previously

defined by a consultant and a supervision consultant typically assists the Contracting Authority in controlling the quality and quantity of work done.

Design and Build is a project delivery method that combines two, usually separate services into a single contract. With design-build procurements, owners execute a single, fixed-fee contract for both architectural/engineering services and construction. The design-build entity may be a single firm, a consortium, joint venture or other organization assembled for a particular project.

With design-build delivery, the design-builder assumes responsibility for the majority of the design work and all construction activities, together with the risks associated with providing these services for a fixed fee. When using design-build delivery, owners usually retain responsibility for financing, operating and maintaining the project. While design-build procurement has been more prevalent in private sector work, it is also gaining acceptance among many public sector transportation infrastructure owners

Management contracts: A management contract is an arrangement by which a private company is entrusted with various types of tasks usually performed by the public authority, relating to the organization of road maintenance operations. Usually, the function of the private firm is to respond to day-to-day routine maintenance requirements by contracting private companies, on behalf of the public entity, to perform the works. Management contracts can also (or only) focus on operation management. In this case, typical tasks entrusted to the private sector are: traffic counting, axle-load weighing and providing traffic information, traffic management including surveillance, stand-by services for accidents, traffic regulation, toll collection (usually not remunerated on the basis of the amounts collected but rather on a fixed rate basis).

Performance-based maintenance contracts are derived from the previous type of arrangement by shifting the focus from administration (maintenance activities and resources) to certain performance conditions valued by the users. They typically leave contractors with more autonomy in the design and organization of the works. Remuneration is based on a monthly fee determined up-front stated in the contract and linked to performance indicators

In PBC the client does not specify any method or material requirements. Instead he specifies performance indicators that the contractor is required to meet when delivering maintenance services. For example, the contractor is not paid for the number of potholes he has patched, but for the output of his work: no pothole remaining open (or 100% patched). Failure to comply with the performance indicators or to promptly rectify revealed deficiencies adversely affects the contractor's payment through a series of clearly defined penalties. In case of compliance the payment is regularly made, usually in equal monthly instalments.

PBC within the road sector can be "pure" or "hybrid". The latter combines features of both method- and performance-based contracts. Some services are paid on a unit rate basis, while others are linked to meeting performance indicators

Examples of performance-based maintenance contracts in Serbia and Zambia are presented in Module 6: Tools -> Case Studies.

Operation and maintenance concessions (service concessions): The host country's objectives may be for the private sector to operate and maintain an already existing road, and therefore the government may grant a concession to the private participants to charge user tolls to help finance the improved operation and maintenance of the road. Such a concession shifts the financial burden of operation and maintenance to the road user and at the same time should increase the efficiency of the road's operation and maintenance. Besides the issues inherent in a concession agreement, an operation and maintenance concession is similar in scope and approach to what is required and negotiated in a typical operation and maintenance agreement between private parties under a BOT-type arrangement (see below). This type of concession is also referred to as franchise, lease; "affermage" (French term) or "concession" under the PPI database.

Operation and maintenance concessions enable the public sector in developing countries to transfer commercial risk to the private sector and to create incentives for the private sector to ensure efficient revenue collection and to undertake regular maintenance to increase the reliability of facilities and postpone their renewal.

BOT-type of concessions (works concessions): Under a BOT, the responsibility of the concessionaire is not limited to operation and maintenance of the infrastructure but also comprises an initial construction, upgrading or major road rehabilitation component. Massive investment and consequent mobilization of private funding sources is therefore required from this company and is to be repaid from the revenue collected from road users (usually tolls). BOT (Build Operate Transfer) stresses the responsibility of the private entity during construction and operation of the road and the handing over (transfer) of the assets to the public entity at the end of the operation period. The high initial investment required from the private sector and the consequent long concession period make the distribution of risk between the parties a key element of success in such schemes. Many variations on this type of contract have been implemented with a consequently growing number of acronyms used to label them (DBFO, BOOT, BTO), refer to the Glossary. This PPP type is also referred to as "greenfield" in the PPI database.

BOT-type of concessions offer further advantages of increased value for money through efficiencies in construction costs as well as plant and labor management and to escape public budget constraints and to mobilize investment funds rapidly through project finance non-recourse funding. However, tendering and contracting may initially be lengthy procedures if there is little previous experience in the country.

In the BOT-type concession, private sector participants typically establish a project company and, after securing an exclusive license from the host government or contracting authority (concession agreement), construct, control, operate and maintain a project for a determined length of time (concession period). The private sector participants then transfer the project company assets back to the host government after the period has elapsed.

Examples of BOT type contracts in Chile, Croatia, UK, South Africa are presented in Module 6: Tools -> Case Studies.

Toll Road Corporations or Authorities are either public, private or semi-public organizations set up to develop and operate a regional or national network. Setting up a public toll road corporation is often chosen by Governments to maintain a strong influence over the

operator. Such an entity is free to collect tolls for its own development and its ability to tap private finance is facilitated by strong government support or by demonstrated revenue and a track record proving financial viability. This is usually reflected in good credit ratings. Building the infrastructure facilities may not necessarily be part of the initial assignment. For example, a corporation could be set up to operate an existing road infrastructure facility and build new facilities as revenue is raised through tolls collected on the existing facilities, or through the securitization of future revenue made possible by the existence of a solid past revenue record. Toll Road Corporations have largely contributed to the development of the highway networks in Europe (France; Italy, Spain and Hungary M3), Japan and the USA. In France and Italy, both public and private corporations co-exist.

Although public toll road corporations may not be considered as genuine public-private partnerships, it provides many of the characteristics of PPP roles and the operator is required to contract through competitive tender at least the construction works and possibly also the operation, maintenance and toll collection to private companies.

Examples of toll road corporations and authorities developed in France and Indonesia are presented in Module 6: Tools -> Case Studies.



A Sourcebook for Poverty Reduction Strategies, World Bank, 2002

Privatization means transferring a public service or facility to the private sector, sometimes together with its ancillary activities, for it to be managed in accordance with market forces and within the framework of an exclusive right granted by a ministerial or parliamentary act (or sometimes a license). Since there is a full transfer of ownership in which the private sector assumes all risks and responsibilities associated with the activity, it is not generally considered within the range of PPP options. In the highways sector, privatization is usually confined to the case of toll road corporations, as in France (Module 6: Tools -> Case Studies).



PPP Options, Federal Highway Administration; USA
<http://www.fhwa.dot.gov/ppp/options.htm>



Resource Guide, Performance-based Contracting for Preservation and Improvement of Road Assets, World Bank
<http://www.worldbank.org/transport/roads/resource-guide/index.htm>

Elements of choice

It may be expected that projects with higher level of private sector involvement deliver more efficiency gains. However, the level of complexity of the projects and the consequent risk of failure grows correspondingly. The first major difficulty for the decision makers

consists therefore in identifying which option may be most suitable for their country and for the projects they want to implement. Main parameters leading this choice will be:

- the coherence of the project/option with the main objectives of the road sector policy.
- the capacity of the private sector (contractors, consultants, financiers...) to undertake the foreseen activities.
- the capacity of the public sector to implement the various types of PPP projects
- the adequacy of the country environment (political, legal and institutional framework) to the contractual and organizational arrangements required to rule the project.